

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027134**Date Inspected:** 02-Feb-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Steve Jensen**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 5W-PP29-W2 deck access hole infill plate to top deck plate outside, QA randomly observed ABF/JV qualified welder Wai Kitlai continuing to perform CJP groove welding fill pass then cover pass on the butt joint. The welder was observed perform automatic welding in the 1G (flat) position utilizing a Bug-o track mounted dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3030-1. The joint being welded has a single V-groove butt joint that has been root welded without backing bar. The splice joint was preheated to greater than 150 degrees Fahrenheit using propane gas torch prior welding. During welding, ABF Quality Control (QC) Steve Jensen was noted monitoring the welding parameters of the welder. Measured welding parameters were 251 amperes, 22.4 volts and travel speed of 340mm per minute with calculated heat input of 0.99Kjoules per mm. At the end of the shift, fill/cover pass welding on butt joint was partially completed on the radius and the rest of the joint should continue tomorrow.

At OBG 5W-PP36-W2 access hole infill plate to top deck plate outside, QA randomly observed ABF/JV qualified welder Jason Collins perform CJP groove root pass welding. The welder was observed welding in the 1G (flat) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1010 Revision 1. The joint being welded has a double V-groove butt joint. ABF Quality Control (QC) Steve Jensen was noted monitoring the welding parameters of the welder. Prior

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welding, QC has checked the fit up alignment and noted minimal misalignment. This QA verified the fit up alignment and noted the same. At the end of the shift, root pass welding of the butt joint was completed.

FW Spencer:

At location Panel Point PP53 to PP59 of OBG grid line W2, this QA randomly observed FW Spencer qualified welder Damian Llanos perform Complete Joint Penetration (CJP) 6G (all position) Shielded Metal Arc Welding (SMAW) welding root pass to cover pass on the field splice butt joint of 2.5" and 4" domestic water and compressed air lines respectively. The system lines being welded are field weld joints along the grid line of W2 of the OBG. The welder was noted welding the root pass with 3/32" diameter E6010 electrode and followed by fill pass to cover pass using 3/32" diameter E7018H4R electrode implementing Caltrans approved procedure FW Spencer WPS 1-12-1. The welder was noted preheating and removing the moisture of the joint using a portable propane gas torch prior welding. During welding, ABF QC Steve Jensen was noted monitoring the parameters of the welder. At the end of the shift, the welder has completed the following splice butt joints;

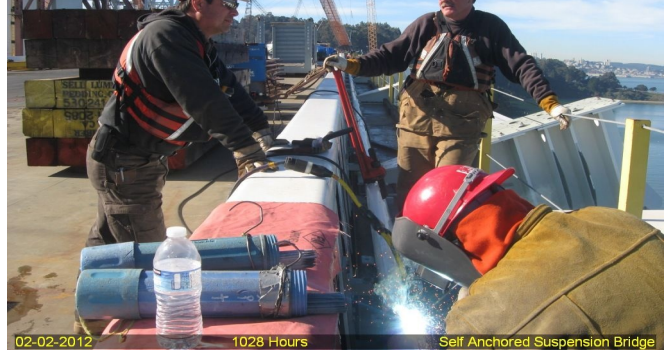
## Line Service Line/Pipe Size Panel Point Location Joint Designation

- 1 Compressed Air 4" 53 Northwest 27/4/53/NW
- 2 Domestic Water 2 1/2" 53 Northwest 27/2.5/53/NW
- 3 Compressed Air 4" 55 Northwest 28/4/55/NW
- 4 Domestic Water 2 1/2" 55 Northwest 28/2.5/55/NW
- 5 Compressed Air 4" 57 Northwest 29/4/57/NW
- 6 Domestic Water 2 1/2" 57 Northwest 29/2.5/57/NW
- 7 Compressed Air 4" 59 Northwest 30/4/59/NW
- 8 Domestic Water 2 1/2" 59 Northwest 30/2.5/59/NW

At OBG 5W-PP29-W2 deck access hole, (rft) plate to top deck plate outside, ABF welder Wai Kitlai was observed performing 1G Flux Cored Arc Welding (FCAW) partially welding fill pass to cover pass on butt joint.



At panel point location PP53 of OBG grid line W2, FW Spencer welder Damian Llanos was observed performing 6G Shielded Metal Arc Welding (SMAW) welding root pass to cover pass on 2 1/2" and 4" diameter pipe field splice butt joints.



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At OBG 5W-PP36-W2 deck access hole form plate to top deck plate outside, ABF welder Jason Collins was observed performing 1G Shielded Metal Arc Welding (SMAW) welding root pass on butt joint.



### Summary of Conversations:

No significant conversation occurred today.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Lizardo, Joselito	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell, Bill	QA Reviewer

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